Title (en)
METHOD FOR DETECTING INTERNAL SHORT-CIRCUITED CELL

Title (de)
VERFAHREN ZUR ERKENNUNG EINER INTERNEN KURZGESCHLOSSENEN ZELLE

Title (fr)
PROCÉDÉ DE DÉTECTION D'ÉLÉMENT COURT-CIRCUITÉ INTERNE

Publication
EP 3988954 A4 20230705 (EN)

Application
EP 20832672 A 20200205

Priority
- KR 20190075224 A 20190624
- KR 2020001647 W 20200205

Abstract (en)
[origin: EP3988954A1] An internal short-circuit cell detection method according to various embodiments includes detecting a voltage and current of each of a plurality of battery cells that are electrically connected to one another between first and second terminals and are being used, to periodically generate a voltage value and a current value of each of the plurality of battery cells, updating in real time a G parameter value and an H parameter value obtained by digitizing a G parameter and an H parameter indicating a present state of each of the plurality of battery cells from the voltage value and the current value of each of the plurality of battery cells, by using an adaptive filter, calculating a G parameter representative value representing the G parameter values of the plurality of battery cells, and calculating an H parameter representative value representing the H parameter values of the plurality of battery cells, and determining whether a short circuit occurs in each of the plurality of battery cells, based on the G parameter value and the H parameter value of each of the plurality of battery cells, the G parameter representative value, and the H parameter representative value. The G parameter is a parameter indicating a sensitivity of a voltage to a change in current of each of the plurality of battery cells, and the H parameter is a parameter indicating an effective potential determined by a local equilibrium potential distribution and a resistance distribution in each of the plurality of battery cells.

IPC 8 full level
G01R 31/52 (2020.01); G01R 31/367 (2019.01); G01R 31/3842 (2019.01); G01R 31/389 (2019.01); G01R 31/396 (2019.01)

CPC (source: EP KR US)
G01R 31/3648 (2013.01 - KR); G01R 31/367 (2019.01 - EP); G01R 31/382 (2019.01 - KR); G01R 31/3842 (2019.01 - EP US); G01R 31/389 (2019.01 - EP KR); G01R 31/396 (2019.01 - EP KR US); G01R 31/52 (2020.01 - EP US)

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- See also references of WO 2020262787A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

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